Subject: Re: Paintings come to life
Posted by Wayne Parham on Thu, 22 Sep 2022 16:44:34 GMT
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That's so cool, Rusty! Thanks for posting that here!

I remember the first computer-generated photo-realistic images I saw. They were done by ray-tracing software. It wasn't long ago, really, being in the 1990s.

Just before then - in the 1980s - there were what I would call close-to-realism renderings. Mostly done using techniques that could provide shading and highlighting of fairly primitive 3D models. I'm talking about images like you saw in the original TRON movie.

By the 1990s, you could render something that looked realistic using ray-tracing software. Ray-tracing software uses 3D models with a virtual camera and light sources. The 3D models not only describe the shape of an object, but also its surface characteristics like texture, color and reflectivity.

Movement modeling was also going through research and improvements in the 90s. The earliest animations tracked the position of each object independently. So every frame had the X/Y/Z coordinates of every object, and you manipulated them independently. Later improvements included being able to "attach" parts to one another with simulated "joints" that only allowed certain degrees of freedom. That made realistic motion modeling easier. Especially when a physical subject was filmed and its motions captured, and then transferred into the computer model.

In the 2000s, I started to see photo-realistic computer models of people. That took things to a whole new level. The second TRON movie is an example. The rendering of the young Jeff Bridges was outstanding. Now you sometimes almost can't tell if people in movies are actual humans or CGI.

So this project - the subject of your thread - is very interesting to me. Taking 2D images from paintings of famous historical figures and using them to create 3D models makes them come back to life! We can come much closer to really seeing what they looked like.